



ABOVE • It's been a long time coming but the renovation of Bldg. 3 is nearly done. See story on p. 12.

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nih record

Heroes Close to Home

News Anchor Hayward Keynotes African-American History Celebration

By Carla Garnett

Plenty of famous black women, their names and deeds were acknowledged during NIH's salute to African-American History Month on Feb. 16. But speaker after speaker reinforced the resounding message of the day: Remember the heroes close to home.

"We have a tendency to think of history as something that is settled, as an official narrative of long-ago events far removed from our existence," said local TV news anchor JC Hayward, who gave the event's keynote talk. "But for every president, for every general, for every famous orator, there have always been thousands of others—ordinary people, people like us who



Long-time broadcast veteran JC Hayward delivers the keynote address for NIH's African-American History Month observance.

SEE AFRICAN AMERICAN, PAGE 6

Applying a 'Modern Day Miracle'

Liver Transplantation Expert Ascher Shares Wisdom, Insight

By Carla Garnett

If anyone wants more proof that obesity in America is out of control, they need only look at NASH numbers over the last two decades, according to recent Clinical Center Grand Rounds "Great Teacher" Dr. Nancy Ascher. Professor and chair of surgery at the University of California, San Francisco, she shared wisdom and insight from her 30-year career in the field of organ—specifically, liver—transplantation.

Non-alcoholic steatohepatitis, or NASH, she said, is "the newest kid on the block" of disorders indicating liver transplantation. Growing obesity trends in the U.S. over the last 20 years have contributed to increasing NASH diagnoses.

Ascher showed a graph of state obesity rates according to population body mass index (BMI) readings of 30 or greater, which defines

SEE ASCHER, PAGE 4



MIT's Dr. Bonnie Berger gives Pittman Lecture.

More Algorithms Needed

MIT's Berger Outlines Scope of 'Big Data' Problem

This year's Margaret Pittman Lecture, given on Feb. 1 by MIT computational biologist Dr. Bonnie Berger, featured a classic good news/bad news scenario: while massive amounts of new sequencing data are being generated worldwide, computing power is not advancing rapidly enough to digest it.

"We are currently generating massive data sets

SEE BERGER, PAGE 8



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NIH...Turning Discovery Into Health

briefs

STEP Forum on Negotiation, Mar. 27

The staff training in extramural programs (STEP) committee will present an Administrative Strategies forum on the topic "Focus on What You Want: Negotiating Your Desired Outcome," on Tuesday, Mar. 27, from 8:30 to 11:30 a.m. in Natcher Bldg., Rms. E1/2.

Do you realize you are negotiating all day long? How much time do you spend trying to get your kids to do their homework? Have you stressed over how to ask for a promotion? You can enhance your negotiation skills and adopt new strategies to get better results in your personal and professional life. Come learn the art of persuasive communication and how to succeed in crucial conversations.

Have You Heard About the NIH Mentoring Program?

Federal employees interested in serving as learners and advisors across the NIH community are invited to join the April 2012 cohort of the NIH Mentoring Program. "Partnering for Excellence" and building confidential, interactive relationships are the foundations of this program. The program's emphasis on developing core, leadership and management competencies at various levels will ensure a beneficial experience for both learners and advisors.

Program components include: senior-to-junior and peer-to-peer mentoring relationships, on-line application and matching system to connect individuals, mentor-mentee online orientation, 1-year mentoring relationship commitment and professional development events and activities.

The program does not supplant the NIH scientific mentoring and customized IC leadership mentoring programs available in some institutes and centers. Instead, it is intended to fill any gaps where those programs do not exist and enables NIH-wide or even across-HHS relationships. The deadline for online registration and matching is Apr. 30. For more information, visit http://trainingcenter.nih.gov/hhs_mentoring.html.

Workshop on Individual Susceptibility

A program sponsored by NIEHS opens its 2012 workshop series with an exploration of "Biological Factors That Underlie Individual Susceptibility to Environmental Stressors, and Their Implications for Decision-Making" Apr. 18-19 in Washington, D.C. The workshop will focus on the endogenous and biological factors that influence individual variability in response

to environmental exposures such as genetics and epigenetics, physiology, life stage and other biological differences. Presenters will explore new and innovative approaches for characterizing individual variability, as well as approaches for and challenges to communicating the relationships among individual variability, disease susceptibility and public health.

For information about this workshop and others in the series, visit <http://nas-sites.org/emerging-science/>.

Standardized Substance Abuse, Addiction Measures Announced

Scientists in the field of substance abuse and addiction research can now benefit from a resource that allows researchers to gather, share and compare human-subjects data. As announced recently by NIDA and NHGRI, the Consensus Measures for Phenotype and eXposures (PhenX) Toolkit contains 43 additional standardized measures to promote the combination of datasets to more easily identify gene-gene or gene-environment interactions related to substance abuse and addiction.

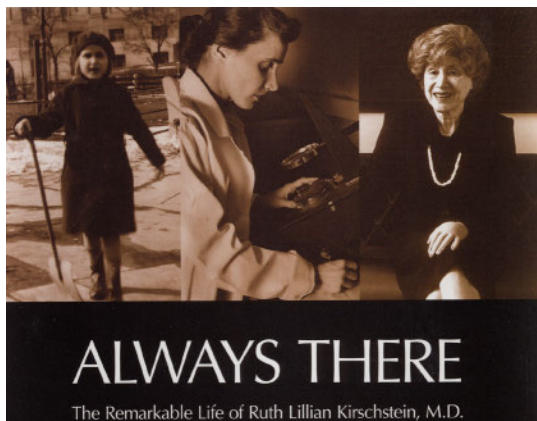
Prior to this effort, the PhenX Toolkit contained nearly 300 standardized measures and protocols across 21 different research areas. Of these standardized measures, 15 were under the domain heading for alcohol and substance abuse. In order to expand the resources available to substance abuse researchers, an expert panel of academic and federal government scientists organized working groups to identify, vet and approve measures for inclusion in the PhenX Toolkit.

"The success of PhenX depends on its use by many different communities of researchers, such as those performing work of interest to NIDA. Their efforts will accelerate discovery of the genetic and environmental factors involved in common diseases," said NHGRI director Dr. Eric Green.

"NIDA is encouraging all grant applicants proposing human-subjects research to use the PhenX Toolkit to increase scientists' ability to combine data and work together across studies," said Dr. Kevin Conway, deputy director of NIDA's Division of Epidemiology, Services and Prevention Research. "The toolkit is a tremendous resource that provides access to standard measures of key biological, psychological and environmental constructs. By using common measures, researchers can readily compare and combine datasets to detect more subtle and complex associations, thereby promoting greater collaboration, efficiency and return on investment."

For more information on the PhenX Toolkit, visit www.genome.gov/27547274.

nih record



A new biography released last month tells the story of NIH icon Dr. Ruth Kirschstein.

Free Kirschstein Biography Now Available

Always There: The Remarkable Life of Ruth Lillian Kirschstein, M.D., a new biography released last month, tells the rare story of a woman who was as comfortable conversing with lawmakers on Capitol Hill as she was bringing science to children in inner-city classrooms.

Medical scientist. Classical pianist. Physician. Art lover. Humanitarian. Research administrator. Dr. Ruth Kirschstein, who died in October 2009, will be remembered not only for the many roles she played throughout her life, but also for the many lives she touched in the course of 83 years. *Always There* walks readers through those years, as the young Kirschstein grows from a talented, curious child into a courageous, confident woman who overcomes obstacles and illness—personally and professionally.

Kirschstein once observed, looking back over her life, “It never occurred to me that I could not do anything I wanted.” This is a story for non-scientists who will learn about the life and legacy of a researcher who embodied the spirit of NIH. It is a story for scientists who will see additional insights into the evolution of polio vaccine. It is a story for administrators who will have a close-up view of how one strong woman got things done. Above all, it is an inspirational story for young people pursuing the sciences who will see the many ways scientists can share their talents.

With a foreword co-authored by her husband Dr. Alan Rabson and son Dr. Arnold Rabson, the book is a biography that often reads like a memoir, using Kirschstein’s own words and impressions folded in with the words of the people who knew her best.

Author Alison Davis wove candid moments of Kirschstein—captured on video and audio recordings—together with dozens of interviews with family, friends and colleagues to paint a richly layered portrait of the woman some knew as skilled scientist and administrator and others knew as trusted advisor and mentor. Whether or not personally acquainted with Kirschstein, readers will get to know her closely in *Always There*.

As NIH deputy director for intramural research Dr. Michael Gottesman noted in the book’s introduction, “So who was this woman...? She was the daughter of immigrants, a dedicated student, a direct victim of inequality...a wife, a mother, an astute researcher, a visionary administrator...Ruth was many things to many people. And her story begins on Ellis Island.” *Always There* tells the Kirschstein story, offering invaluable personal perspectives and anecdotes.

The book is available, free of charge, in several digital formats, including for Kindle, Nook and iPad at www.nih.gov/about/kirschstein/index.htm.

Sponsorship of the book was a collaborative effort of the Office of Intramural Research, the Office of Communications and Public Liaison and the institutes and centers. 📖

Liffers Named NCCAM Executive Officer

Wendy Liffers is the new executive officer at the National Center for Complementary and Alternative Medicine. She will oversee management, administrative, financial, information-systems, personnel and related functions of the center. NCCAM has 95 FTE and contractor staff and a FY 2011 budget of \$127.7 million.

Liffers first joined NIH in 1985 as a Presidential Management Intern. She then moved to senior leadership positions that have varied from legislative analysis to science planning to management and operations, first at NIAID and later at NIDCR. She comes to NCCAM after 7 years with the NIH Office of Management, where she was associate director for management and operations and also completed a detail as acting OD executive officer.

Said NCCAM director Dr. Josephine Briggs, “As NCCAM moves into the future, guided by our third strategic plan, we look forward to benefitting from Wendy’s diverse experience and strong leadership.”

Liffers received a law degree from American University Washington College of Law and her master’s degree in international affairs from that university’s School of International Service.



First Schatzkin Lecture in Nutritional Epidemiology, Apr. 16

The first Arthur Schatzkin Distinguished Lecture in Nutritional Epidemiology will be held at 3 p.m. on Monday, Apr. 16 in Lipsett Amphitheater, Bldg. 10. NCI established this annual lecture to honor the memory of Dr. Arthur Schatzkin, a visionary scientist, mentor and leader in the field of nutrition and cancer. He joined NCI in 1984, and served as chief of the Nutritional Epidemiology Branch from 1995 to 2011. He was committed to understanding the role of nutrition in cancer etiology and prevention and was instrumental in addressing major methodological issues of research in nutritional epidemiology. He passed away in January 2011.

This year’s lecturer is Dr. John Potter, member and senior advisor of the division of public health sciences, Fred Hutchinson Cancer Research Center and professor of epidemiology at the University of Washington. Potter’s research focuses on the role of diet and physical activity in the development of cancer, with a particular emphasis on the epidemiology, biology, early detection and prevention of colon cancer. The title of his talk is “Nutrition, Environment, Development and Cancer: Casting a Wider Net.”



ASCHER

CONTINUED FROM PAGE 1

Before the lecture, Dr. Jake Liang (l) and Dr. Theo Heller (r), both of NIDDK, chat with Clinical Center Grand Rounds "Great Teacher" Dr. Nancy Ascher, professor and chair of surgery at UCSF.

PHOTOS: ERNIE BRANSON

obesity. In 1990, no state reported higher than 19 percent of its population fitting the definition. By 2009, all but one state reported at least 20 percent of its population could be determined to be obese.

"The incredible epidemic of obesity in the U.S. is reflected in patients listed for transplantation who have [NASH]," she said. "Chronic active hepatitis C, which is the most common indication for liver transplantation in the U.S. today, is being surpassed by [NASH], unless you come up with a treatment for this disease."

Introduced as a "master tinkerer and brilliant thinker" by Dr. Jake Liang, chief of NIDDK's Liver Diseases Branch, Ascher began her talk with a short history lesson in the "modern day miracle" of organ transplantation.

She recalled a *New York Times* article in 2004 celebrating the "Ultimate Gift: 50 Years of Organ Transplants." The first successful live-donor kidney transplant surgery was performed in 1954. The first-ever kidney transplant had been done in 1947 using a cadaver organ. The first liver transplant was completed in 1963. In recent years, hands and faces have been transplanted.

"When you think about it," Ascher said, showing a timeline tracing the field's beginnings, "we are approaching the time when we can replace any solid organ."

Zeroing in on her specialty, Ascher noted 10-year survival rates after liver transplant: Using a live-donor liver offers the highest survival rate at 85.2 percent; transplant with cadaveric organs offers 59.4 percent. "Transplantation," she said, "is no longer an experimental procedure."

Ascher covered a lot of ground in a short period. She discussed the need for live donors and how distribution decisions are made.

"The need for live-donor transplant is great," she said. "There are approximately 18,000 people waiting on the liver transplant list, but only about 6,000 receive a liver transplant. About 10 percent of patients on the U.S. list die while waiting. About 11 percent of our [UCSF] patients on the list in 2010 died without transplant."

Ascher said the Model for End-Stage Liver Disease, or MELD, was put in place in 2002 for adult patients on the waiting list for organs. MELD is a formula that uses lab results—bilirubin, creatinine, INR—to calculate the severity of a patient's illness.

"The higher your MELD score, the more likely you are to get a transplant," Ascher explained.

"The purpose of creating the MELD was to prevent patients from dying on the transplant waiting list."

Ascher also talked briefly about the UCSF liver transplant program, the largest in northern California and one of the largest nationwide. She and two associates started the program in 1988. More than 2,600 liver transplants have been performed there to date.

Ascher shared UCSF's report cards. "We are judged by how well we do with transplant relative to how gravely ill our patients are," she said. The program gets examined every 6 months. UCSF scored 93 percent in observed patient survival 1 year after surgery. That significantly beat the expected outcome of 88.4 percent and the national score of 88.6 percent.

"Over the last 8 report cards, we had superior survival in all grade periods," Ascher noted. "With the use of a dedicated team of physicians—surgeons, hepatologists, anesthesiologists, infectious disease, nursing, social work, psychiatry—we are actually able to achieve great success."

The surgeon, who also has published more than 300 research papers, talked about the transplantation operation itself and risks to live donors. She gave some insight on her program's experiences and techniques.

Ascher said two important observations about the liver have guided the field: the liver can be divided into sections and segments can be removed; and the liver regenerates itself.

"If I take out two-thirds of your liver," she said, "your liver will grow back. Of course this is the basis for doing liver resection and for doing live-donor liver transplant and split-liver transplant." Donors regrow their liver volume, about



Ascher discusses UCSF's liver transplant program, the largest in northern California and one of the largest nationwide. She and two associates started the program in 1988. More than 2,600 liver transplants have been performed there to date.

95 percent, within a month. The recipient, because of therapy drugs, takes about 4 or 5 months to regrow the liver.

Showing a CT scan of a donor's liver 6 months after donation, Ascher pointed out where the liver had recouped its original volume, but regrown in an entirely different shape. The colon filled in empty adjacent space around the liver as it regrew.

"It's interesting," she said, "that we don't know what the long-term complication will be for donors."

Ascher explained an approach UCSF and the University of Nebraska have taken to remove a smaller portion of the donor's liver "to decrease danger to donor and somewhat increase danger to recipient." Both programs use a porto-caval shunt to bypass some blood flow away from the small portion of liver, in effect allowing it to grow. Other programs solve the donor-risk problem by using small portions from two donors, in effect putting three people at some risk.

In Q&As, she addressed several issues, including the possibility of using stem cells to grow liver tissue.

"I think that has incredible potential," Ascher said. "We'll see how it all sorts out. We also think that the field of stem cell biology will allow us to avoid the use of immunosuppressant drugs."

Ascher's Feb. 8 lecture is archived under Past Events at <http://videocast.nih.gov/>. ●

NIH Creates Online Genetic Testing Registry

An online tool launched Feb. 29 will make it easier to navigate the rapidly changing landscape of genetic tests. The free resource, called the Genetic Testing Registry (GTR), is available at www.ncbi.nlm.nih.gov/gtr/.

"I'm delighted that NIH has created this powerful new tool. It is a tremendous resource for all who are struggling to make sense of the complex world of genetic testing," said NIH director Dr. Francis Collins. "This registry will help a lot of people—from health care professionals looking for answers to their patients' diseases to researchers seeking to identify gaps in scientific knowledge."

Genetic tests currently exist for about 2,500 diseases and the field continues to grow at an astonishing rate. To keep pace, GTR will be updated frequently, using data voluntarily submitted by genetic test providers. Such information will include the purpose of each genetic test and its limitations; the name and location of the test provider; whether it is a clinical or research test; what methods are used; and what is measured. GTR will contain no confidential information about people who receive genetic tests or individual test results.

Genetic tests that the Food and Drug Administration has cleared or approved as safe and effective are identified in the GTR. However, most laboratory-developed tests currently do not require FDA premarket review. Genetic test providers will be solely responsible for the content and quality of the data they submit to GTR. NIH will not verify the content, but will require submitters to agree to a code of conduct that stipulates that the information they provide is accurate and updated on an annual basis. If submitters do not adhere to this code, NIH can take action, including requiring submitters to correct any inaccuracies or to remove such information from GTR.

In addition to basic facts, GTR will offer detailed information on analytic validity, which assesses how accurately and reliably the test measures the genetic target; clinical validity, which assesses how consistently and accurately the test detects or predicts the outcome of interest; and information relating to the test's clinical utility, or how likely the test is to improve patient outcomes.

"Our new registry features a versatile search interface that allows users to search by tests, conditions, genes, genetic mutations and laboratories," said Dr. Wendy Rubinstein, GTR director. "What's more, we designed this tool to serve as a portal to other medical genetics information, with context-specific links to practice guidelines and a variety of genetic, scientific and literature resources available through the National Library of Medicine at NIH."

GTR is built upon data pulled from the laboratory directory of GeneTests, a pioneering NIH-funded resource that will be phased out over the coming year. GTR is designed to contain more detailed information than its predecessor, as well as to encompass a much broader range of testing approaches such as complex tests for genetic variations associated with common diseases and with differing responses to drugs. GeneReviews, which is the section of GeneTests that contains peer-reviewed, clinical descriptions of more than 500 conditions, is also now available through GTR.

The GTR database was developed by NLM's National Center for Biotechnology Information, under the oversight of the NIH Office of the Director and with extensive input from researchers, testing labs, health care providers, patients and other stakeholders.

Among participants at the event are (from l) Hayward, NIH director Dr. Francis Collins, NIDDK director Dr. Griffin Rodgers and ORWH acting director Dr. Janine Austin Clayton.



AFRICAN AMERICAN

CONTINUED FROM PAGE 1

are here in this room who withstood struggles, made choices and actions that shaped history as surely as a treaty or a battle did.”

Sponsored in Kirschstein Auditorium by the Office of Equal Opportunity and Diversity Management, the annual observance adopted the 2012 national theme, “Black Women in American Culture and History.”

NIDDK director Dr. Griffin Rodgers, serving as emcee for the event, set the tone. “What about a mother or our grandmother or former teacher?” he asked, in opening remarks. “These women—perhaps famous only to us—may have changed our history or culture by serving as important role models, teaching us about justice and serving as symbols of strength, love and resilience. Let’s remember all of these women today and throughout this month and how different our lives would have been without them.”

Reading from President Obama’s 2012 proclamation on the month-long celebration, NIH director Dr. Francis Collins said, “Achievements of African-American women are not limited to those recorded and retold in our history books. Their impact is felt in communities, where they are quiet heroes who care for their families; in board rooms, where they are leaders of industry; in laboratories—like here at NIH, I might

add—where they are discovering new technologies; and in classrooms, where they are preparing the next generation for the world they will inherit. It’s certainly a time to remember the legacy of African-American women of the past and to celebrate today’s women of note.”

He briefly recalled career highlights of two longtime NIH’ers, now retired—former NIH associate director for research on women’s health Dr. Vivian Pinn, and NHLBI sickle cell disease research pioneer Dr. Clarice Reid.

“We are fortunate at NIH to have many such role models in our midst,” he concluded.

Hayward talked about the accomplishments of Josephine Baker, Patricia Roberts Harris, Leontyne Price and Alice Coachman, but the Emmy Award-winning broadcaster was visibly moved when speaking fondly of someone she knew a lot more personally.

“Let’s get real...If you come from a real black mama, the way I did, then you know about those innate qualities that black women have—the [qualities] that are real hard to put your fingers on,” said Hayward, drawing nods and murmurs of agreement from the audience. “Blanche had eyes in the back of her head. She could see everything. Certainly she could see everything in church on Sunday when I was in the choir

loft playing...Blanche was not educated with a college degree, but I thought she knew everything. In my little world, she certainly did."

Hayward said her mother provided hot meals daily, made sure the house was spotless and managed the family's finances.

"Blanche instilled in me a sense of pride, a sense of confidence and definitely the ability to dream big," concluded Hayward, who celebrated her 40th year as a news anchor at D.C.'s WUSA channel 9. "She won't be found in any of your history books, but when you're looking at me, you're looking at Blanche."

Those family and community heroes—ordinary by most standards—inspire greatness in everyone, giving individuals the power and courage to make history, Hayward concluded.

"As our nation continues to become even more diverse, it is vital for us to recognize the black women who have shaped the future for all of us—not just for black American women, but for Americans in general," she said. "We have generations of black women to thank for where we stand today."



Left:

A 40-year veteran of WUSA-Channel 9 News, Hayward said, "We have generations of black women to thank for where we stand today."

Below:

Following the observance, she signed programs and posed for photos with well-wishers.

PHOTOS: MICHAEL SPENCER



Vocalist DeCasto Brown (above) and composer-pianist Terry Marshall (below) perform jazz classics.



3rd Annual Halo Chase Set, Apr. 19

This 5K run/1-mile walk, sponsored by the R&W and the NIH Health's Angels Running Club, will take place on Thursday, Apr. 19 at 11 a.m. at the Bldg. 1 flagpole. Suggested donations of \$10 are being accepted and will go to benefit the NIH Charities. Look for more information about this event and how to register on the R&W ListServ later this month and in the April R&W Newsletter.



BERGER

CONTINUED FROM PAGE 1

Right:

Berger said the hunt for new algorithms to tame the data beast have yielded unexpected biological insights.

PHOTOS: BILL BRANSON

and are badly in need of new algorithms” to sort the data meaningfully, said Berger, whose topic was “Computational Biology in the 21st Century: Making Sense Out of Massive Data.”

“Sequencing data is growing astronomically,” she said. “The good news is that there are lots of data in which to find patterns...The bad news is that we face a computationally intractable problem due to the enormous amount of data. There has been an exponential explosion in the amount of sequencing data.”

During the 1990s, she explained, computing power adhered to Moore’s Law [computing speed doubles roughly every 2 years], which was sufficient to keep up with the accumulation of sequencing data. But in the past decade or so, sequencing has outpaced computing speed.

“It’s tempting to think that cloud computing will solve the problem,” Berger said, “but that’s not the case. Computing power per dollar has not kept up with sequencing speed. We need fundamentally better algorithms and we need them quickly.”

Berger said the hunt for new algorithms to tame the data beast have yielded unexpected biological insights; it’s almost as if the view from 50,000 feet has brought new patterns and relationships into focus.

She outlined three strategies she and her colleagues have adopted in the face of a data immensity problem that NIH director Dr. Francis Collins, who introduced Berger, said has even gained White House attention. “Dr. Berger’s work is very timely for us at NIH,” he said, “since we too are struggling with ‘Big Data.’ Even the White House is asking how we can manage such large quantities of biological data.”

■ **Large-scale genomics:** Just as digital music files can be compressed in order to store and share

them more easily, genomic information can be compressed. But it has to be “compression we can use,” said Berger, who added that “compression doesn’t solve all of our problems...eventually we have to look at [all of] it...Much data is similar, so how do we take advantage of the redundancy? By compressive genomics.” Using a strategy she called “approximate succinct data structures,” researchers only focus on non-redundant data, not the full set.

■ **Medical genomics:** By applying sophisticated algorithms that tease out signal from noise, Berger and colleagues can map what they call a “transcriptomic landscape” from a large compendium of disparate gene expression studies. Clinical applications include the ability to better identify the tissue of origin of metastatic cancer, classify tumors of unknown origin, find marker genes specific to diseases and stratify tumor grade.

■ **Network biology:** The way biological molecules “talk” to one another tends to be conserved across species. By modeling protein-protein interactions in many organisms, researchers can search for conserved network structure. The IsoRank algorithm developed in Berger’s lab looks for structural similarities. Her IsoBase database illustrates functional relationships. Berger, a professor of applied mathematics and computer science, thinks that “the high level spectral techniques that inform IsoRank and IsoBase will allow biologists to bring their systems-level knowledge of model organisms to next inform our understanding of widely diverse species across the kingdom of life.”

The annual Pittman Lecture, established in 1994, honors an outstanding scientist who is thought to be the first woman to head an NIH laboratory.—Rich McManus

milestones



Exec Sec's Gill Retires from Bldg. 1 Career

Tom Gill, who joined NIH's executive secretariat as a writer-editor and worked in exec sec for nearly 20 years, retires Mar. 31 after a 32-year federal career that included civilian stints with the Army and the National Defense University. After decades of putting other peoples' words onto letters, documents and books, the Prince George's County native looks forward to writing his own script.

Which won't be difficult for a holder of both undergraduate and master's degrees in English from the University of Maryland; he has long nourished interests in music, theater and the outdoors.

"I was never one of those guys who wondered what to do with themselves after retirement," he said. "I have a long list of things I want to do."

Gill recalls that his federal career began on St. Patrick's Day, 1980. "I worked under the sidewalk on Independence Ave., between 10th and 12th Sts. It was a storage area that had been converted to office space. It was a horrible office, but a great location."

During his year underground with the Headquarters of the Army, Gill spent lunch hours watching films at the Hirshhorn Museum, "which was a pretty fantastic way to spend lunch."

Next came 3 years in anonymous Army space in Alexandria, followed by a relatively idyllic posting to Ft. McNair in southwest D.C., where Gill helped research fellows write books and monographs for 8 years at the National Defense University.

"That was really a fun job," he recalls. "The good projects we turned into publications. Some were picked up by international affairs departments at universities."

The university, whose students were mostly colonels, encouraged healthy doses of recreation, including noontime soccer games and long runs. However, when new leadership arrived and roles within his office were changing, Gill read the writing on the wall and decamped for NIH.

He arrived in April 1992, when Dr. Bernadine Healy was NIH director. Gill remembers handling a heavy volume of her correspondence. And during Dr. Harold Varmus's tenure as NIH director, Gill handled many information-gathering jobs that involved developing contacts across the agency.

In recent years, he has done less writing and editing. "I became supervisor of the records side of the office, doing mostly computer stuff while still working with a lot of good people and interesting people," he said.

Gill says he's leaving now "because I can. It seems conducive to go, with all the attacks on federal workers. I began working for the government at age 22. My only real long-term plan when I started was eventually being able to retire from the government relatively young."

Gill recently spent spring break with one of his two sons, who is a music major at Indiana University. He also plans to visit London—"My favorite place on the planet"—during the upcoming Summer Olympics. A guitarist in his church's modern music group, he plans to continue that, along with possible appearances at local open mics. He also wants to read more and return to running and cycling.

Something he said of his son seems to apply to him as well: "I told him that he's lucky because the thing that he's best at [playing percussion], he also loves to do." Gill will certainly rate exceptional at retirement. —**Rich McManus**

Left:

Tom Gill joined NIH's executive secretariat as a writer-editor and worked in exec sec for nearly 20 years. He retires Mar. 31.

NIA's Salive Honored by ACPM

The American College of Preventive Medicine (ACPM) recently awarded the Ronald Davis Special Recognition Award to Dr. Marcel E. Salive, a medical officer in NIA's Division of Geriatrics and Clinical Gerontology. The honor is given annually in recognition of leadership and outstanding contributions to the field of preventive medicine and is named for ACPM fellow and past American Medical Association president Dr. Ronald Davis.

Salive, who accepted the award at the organization's annual meeting in Orlando, was recognized for outstanding public health leadership in the development of Medicare coverage for new preventive services in his prior position with the Centers for Medicare and Medicaid Services (CMS). He is a fellow and a regent of ACPM and is trustee and vice chair of the American Board of Pre-

ventive Medicine. Salive is a captain in the Public Health Service; during his 23-year career he has held leadership positions with NIH, CMS and the Food and Drug Administration.

NCI Alumnus Banfield Mourned

Dr. William G. Banfield, 91, a pioneer researcher in electron microscopy at the National Cancer Institute's Laboratory of Pathology who retired in 1980 after a 26-year NIH career, died on Jan. 13 at home in Rockville.

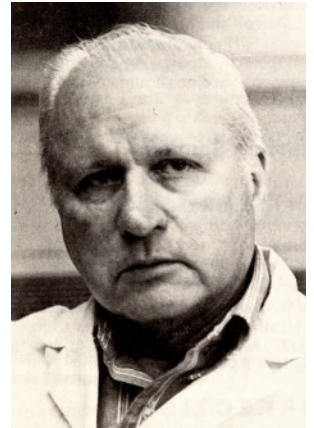
Banfield came to the Laboratory of Pathology a year after its establishment in 1953 as a diagnostic facility for the Clinical Center.

Trained in the then-new field of electron microscopy at Yale University, he was the first with such skills in the NCI laboratory and was one of the first scientists to obtain images of the polyoma virus, a tumor-causing agent in mice.

As the research applications of the electron microscope progressed, Banfield was involved in refining the technology and developing a more versatile instrument, the scanning electron microscope.

He also helped develop the electron probe, a device that could identify small amounts of elements such as sodium, lead and mercury in tissues and cells.

Banfield graduated from Rhode Island University in 1941 at the top of his class, majoring in agriculture.



Dr. William Banfield, circa 1980

During World War II, he went to medical school at Yale and then entered the Army Medical Corps. After leaving the military, Banfield was recruited to NIH.

In retirement, Banfield raised sheep on his 11-acre farm in Maryland. Originally, the herd supplied serum for research, but Banfield raised them for the local mutton and wool market. He was also a pilot, scuba diver and spelunker, and had obtained a law degree from American University.

Banfield is survived by his wife Joan and his three children, four grandchildren and one great-grandchild. 🕯

NIH Golf Association Begins Play

The NIH Golf Association is an 18-hole co-ed league that welcomes golfers of all skill levels to play in a friendly, competitive environment. Play is mid-week at a different nearby course about every other week beginning in April. The NIHGA has 6 teams of up to 25 players each. There are 8 stroke-play events, followed by a double-elimination team match-play tournament of up to 7 outings. Handicaps are maintained by the league. Play in any or all of the outings, as your schedule permits, at some of the best public courses in the Maryland/Virginia area. And enjoy the benefit of mid-week, group-outing prices, usually in the \$50 range.

There are prizes for low gross, low net, longest drive and closest-to-the-pin at every event. The year is capped off with a scramble in October that includes golf and dinner as well as individual and team trophies and other prizes. For more information about the league, including the 2012 schedule, visit www.recgov.org/nihga/ or contact Jim Fleshman at jimfleshman@live.com.



NIA's Dr. Marcel E. Salive receives the Ronald Davis Special Recognition Award from ACPM President Miriam Alexander.

digest

Blockade of Learning, Memory Genes May Occur Early in Alzheimer's

A repression of gene activity in the brain appears to be an early event affecting people with Alzheimer's disease, researchers funded by NIH have found. In mouse models of AD, this epigenetic blockade and its effects on memory were treatable.

"These findings provide a glimpse of the brain shutting down the ability to form new memories gene by gene in Alzheimer's disease, and offer hope that we may be able to counteract this process," said Dr. Roderick Corriveau, a program director at NINDS, which helped fund the research.

The study was led by Dr. Li-Huei Tsai, director of the Picower Institute for Learning and Memory at MIT and an investigator at the Howard Hughes Medical Institute. It was published online Feb. 29 in *Nature*.

Tsai and her team found that a protein called histone deacetylase 2 (HDAC2) accumulates in the brain early in the course of Alzheimer's disease in mouse models and in people with the disease. HDAC2 is known to tighten up spools of DNA, effectively locking down the genes within and reducing their activity, or expression.

In the mice, the increase in HDAC2 appears to produce a blockade of genes involved in learning and memory. Preventing the build-up of HDAC2 protected the mice from memory loss.

"We think that the blockade of gene expression plays a very important role in the cognitive decline associated with Alzheimer's disease," said Tsai. "The good news is that the blockade is potentially reversible."

Vitamin D Shrinks Fibroid Tumors in Rats

Treatment with vitamin D reduced the size of uterine fibroids in laboratory rats predisposed to developing the benign tumors, reported researchers funded by NIH.

Uterine fibroids are the most common noncancerous tumors in women of childbearing age. Fibroids grow within and around the wall of the uterus. Thirty percent of women 25 to 44 years of age report fibroid-related symptoms such as lower back pain, heavy vaginal bleeding or pain-

ful menstrual periods. Uterine fibroids also are associated with infertility and such pregnancy complications as miscarriage or preterm labor. Other than surgical removal of the uterus, there are few treatment options for women experiencing severe fibroid-related symptoms and about 200,000 U.S. women undergo the procedure each year. A recent analysis by NIH scientists estimated that the economic cost of fibroids to the United States, in terms of health care expenses and lost productivity, may exceed \$34 billion a year.

Fibroids are three to four times more common in African-American women than in white women. Moreover, African-American women are roughly 10 times more likely to be deficient in vitamin D than are white women. In previous research, the study authors found that vitamin D inhibited the growth of human fibroid cells in laboratory cultures.

"The study results provide a promising new lead in the search for a non-surgical treatment for fibroids that doesn't affect fertility," said Dr. Louis De Paolo, chief of the Reproductive Sciences Branch, NICHD, which funded the study. The findings appeared online in the journal *Biology of Reproduction*.

Fatty fish such as salmon, mackerel and tuna are the best natural sources of the vitamin. Very few foods naturally contain vitamin D. Fortified milk and other fortified foods provide an additional source of the vitamin. Vitamin D is also produced when ultraviolet rays from sunlight strike the skin.

Variation in Brain Development Seen in Infants with Autism

Patterns of brain development in the first 2 years of life are distinct in children who are later diagnosed with autism spectrum disorders (ASDs), according to researchers in a network funded by NIH. The study results show differences in brain structure at 6 months of age, the earliest such structural changes have been recorded in ASDs.

"The difference in the trajectory of brain development between the two groups was dramatic between 6 and 24 months," said senior author Dr. Joseph Piven of the University of North Carolina, Chapel Hill. "This suggests that the period from 6 to 24 months—when behavioral studies suggest the symptoms of autism are first appearing—is a period of dramatic brain changes in ASDs."

ASDs involve communication and social difficulties as well as repetitive behavior and restricted interests. Many early behavioral signs of ASDs are not apparent until the first year of age. Typically, ASDs are diagnosed at age 3 or older. According to the Centers for Disease Control and Prevention, ASDs affect 1 of 110 children in the United States.

The study was published online in the *American Journal of Psychiatry*.



Fatty fish such as salmon, mackerel and tuna are the best natural sources of vitamin D. Very few foods naturally contain the vitamin. Fortified milk and other fortified foods provide an additional source of vitamin D.

From Lab to Modern Office

Bldg. 3 Nears Completion—New Life for NIH Landmark

Originally built by the George Fuller Co. of Bethesda in 1938, Bldg. 3, now in the last stages of renovation, is an original member of the NIH historic core and a fine example of Georgian revival architecture. Known by its official and somewhat generic name, the “Public Health Methods and Animal Bldg.,” Bldg. 3 is strategically located next to Bldgs. 1 and 2, near Bldg. 31 and within walking distance to the Clinical Center, the Metro station and the main entrance to campus.

The building was a result of a historic private sector land gift in 1935 and was originally constructed as a laboratory, office and animal-breeding building. The original layout of the building included a simple rectangle with a central corridor with laboratories, offices and shared laboratory support spaces on either side. The interior layout was designed to be flexible to accommodate changing equipment and research functions.

Despite ongoing upgrades to building systems, the restrictive floor-to-floor height limited upgrade options. Therefore the building was deemed unacceptable to function as an animal facility and was decommissioned in 2002. At the time, plans involved bringing the building back to life as office space, but funding constraints eventually shelved the idea.

With funds received in 2009 from the American Recovery and Reinvestment Act, the plans were dusted off and subsequently updated to provide a design that would meet current NIH requirements for a modern office facility. But the use of ARRA funds required strict reporting and an aggressive time frame.

“This complex project not only includes a compressed time frame, but also involves complicated utility, security and other IT upgrades, all



Located in the historic core of campus, Bldg. 3 (above) provides 6 levels on 49,200 square feet and is an example of the red brick Georgian style of architecture. Below, utility upgrades required that several new services be provided from the street into the building.

while maintaining the historic character of the building,” said Dexroy Chism, the lead Office of Research Facilities project officer on the renovation.

The renovation also strives for LEED certification, defined by the U.S. Green Buildings Council as leadership in energy and environmental design. LEED certification indicates sustainable site development, water savings, energy efficiency, materials selection and indoor environmental quality.

ORF’s goal is to reduce the building’s energy consumption by 20 percent compared to similar facilities. Strategies include use of energy-efficient lighting systems, day lighting controls and high-performance HVAC systems. Occupant-controlled lighting will be provided for more than 50 percent of the regularly occupied spaces. Occupancy sensors, accessible manual lighting controls and glare control will be provided to the maximum extent feasible.

It is also ORF’s goal to reduce water consumption by 20 percent compared to the water use baseline calculated for a building of this size and kind. Strategies to attain the water conservation goals include specialized faucets and fixtures, high-efficiency and dual-flush water closets and low-flow urinals.

Other achievements include adding a new bike rack on the northwest corner of the site and recycling a high percentage of construction waste.

“The goal of this project is to keep the original design of the building infrastructure, walls and common area in place but provide for the purchase of new furniture systems for installation into the existing building layout,” said Chism. These requirements generated challenges as the space plan developed in 2001 was not intended for the institutes currently set to occupy the building. Also, technology and security requirements changed since the original design.

In order to maintain the historic appearance, the building’s original windows were removed, stripped of lead paint and completely refurbished with high-efficiency, blast-resistant double glazing while the building façade was cleaned and pointed up. The slate roof was meticulously removed, repaired and reinstalled to maintain the historic feel. Trees and plantings on the site will be restored to match the original landscaping.

The ICs that have committed to occupy the building include NIAID, NHLBI, NIDDK, NCI, NINR and NIMHD. The completion of Bldg. 3 is also closely linked to the renovation of the F wing of Bldg. 10. Four institutes have staff moving into Bldg. 3 to facilitate ongoing renovations of the F wing.

As the project nears completion, the final coats of paint are applied, the mechanical and electrical systems are tested, the furniture is installed and the ICs move in, it is inspiring, said Chism, to see an iconic part of NIH history come back to life. 🗨